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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,865	08/07/2000	Marco Schneider	P19741	3303

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RESTON, VA 20191

EXAMINER
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VOLPER, THOMAS E

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/633,865

Applicant(s)

SCHNEIDER ET AL.

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3 and 6</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 27 is objected to because of the following informalities: It is exactly the same as claim 26. Appropriate correction is required.
2. Claim 37 is objected to because of the following informalities: Claim 37 recites the limitation "the predetermined signal" in line 2. It is unclear whether this limitation refers to the first predetermined signal or second predetermined signal of claim 7. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-11, 20-27, 37, 38 and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al. (US 5,970,064) in view of Chen (US 6,563,835).

Regarding claims 1 and 6, Clark discloses a switching device with predetermined functions with respect to a request for a predetermined service (col. 7, line 56 – col. 8, line 4). Clark also discloses a proxy device containing at least one of service policies and logic related to one of enabling and denying said predetermined service, in which multiple service requests are correlated with respective services to enable at least one appropriate policy and logic (col. 8,

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lines 5-58). Clark fails to expressly disclose a switch controller having a bearer function and a virtual switch function for controlling said switching device. Chen discloses a control module (1501) that includes a PVC manager (1506) for providing permanent virtual connection provisioning and a switch manager (1505) for coordinating the setup/teardown of connections in the switching hardware (col. 14, lines 19-50). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide the control module of Chen in the switching device of Clark. One of ordinary skill in the art would have been motivated to do this to provide an entity for controlling the setup of connections through the switching device.

Regarding claims 2 and 4, Clark provides a switching device that meets the limitation of a conventional switch or a next generation switch.

Regarding claim 3, Clark discloses that the switching device is an ATM switching device (col. 7, lines 25-26).

Regarding claim 5, the control module of Chen also meets the limitation of a service controller that includes a switch controller.

Regarding claims 7 and 20, Clark discloses receiving a request from an initiating customer for at least one service (col. 7, lines 56-69). Clark also discloses using policy data to accept or deny service requests, which meets the limitations of obtaining predetermined data related to the request and initiating a network connection based on a policy and logic corresponding to the requested service (col. 8, lines 5-58). Clark fails to expressly disclose the steps of instructing the customer to initiate a predetermined setup, passing a first predetermined signal across a network, initiating a second predetermined setup, passing a second predetermined signal across the network and providing a response to the initiating customer. Chen discloses a

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procedure for setting up a network connection that provides all of the steps mentioned above (see Figure 7). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the procedure of Chen after determining to accept a request based on the policy data of Clark. One of ordinary skill in the art would have been motivated to use this procedure to provide an acknowledged connection from the calling customer to the called customer in addition to simply setting up the connection in the switch fabric.

Regarding claims 8-10, 21 and 22, Clark discloses a network controller that periodically replenishes the policy data at each switch (col. 10, lines 45-47). The network controller generates new policy data based on data received from the switches (col. 11, lines 5-9). The network controller or the switches may initiate the policy update (col. 10, lines 57-67), which represents pushing and pulling the data, respectively.

Regarding claims 11 and 23, the network controller represents the service control module. As stated above, Clark discloses that the switches may initiate a policy update, which meets the limitation of querying a service control module.

Regarding claims 24 and 38, Chen discloses initiating the predetermined setup as a user-to-network interface (see Figure 4).

Regarding claim 25, Clark fails to expressly disclose a predetermined setup that is redirected to a service controller. Chen discloses that the predetermined setup is directed from the switching fabric to a control module (1501), which represents the service controller of the present invention (see Figure 15). In addition, the switch in Figure 15 is an ATM switch, thus the predetermined setup is transferred over an ATM network. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to direct the

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predetermined setup from the switching fabric to a control module in the invention of Clark.

One of ordinary skill in the art would have been motivated to do this since a switch needs intelligence such as a control module for setting up a connection in the switch fabric.

Regarding claims 26 and 27, the control module of Chen also meets the limitation of a service controller that includes a switch controller.

Regarding claim 37, Chen discloses initiating the predetermined setup and second predetermined setup as a UNI (col. 4, lines 40-42 and 60-63) and the predetermined signal comprises a PNNI protocol (col. 4, lines 55-57).

Regarding claims 51, Clark discloses receiving a request from an initiating customer for at least one service (col. 7, lines 56-69). Clark also discloses using policy data to accept or deny service requests (col. 8, lines 5-58), which meets the limitations of establishing a network connection or rejecting a connection based on a policy and logic. Clark discloses that each switch has a connection admission controller (col. 6, lines 48-59), which represents the network connection capability of the present invention. Clark fails to expressly disclose the step of instructing the customer to perform a connection setup request. Chen discloses a procedure for setting up a network connection that includes the step of a customer performing a connection setup request (see Figure 7). Although Chen does not expressly disclose a unique identifier in the setup message, it is well known in the art that such a message must include such a unique identifier. Otherwise, there would be no way to know for which device the connection was being setup. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to instruct the customer to perform the procedure of Chen after determining to accept a request based on the policy data of Clark. One of ordinary skill in the art would have

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been motivated to use this procedure to be sure the connection could actually be established in the switch fabric before attempting to make a call.

Regarding claims 52 and 53, Clark discloses a network controller that periodically replenishes the policy data at each switch (col. 10, lines 45-47). The network controller generates new policy data based on data received from the switches (col. 11, lines 5-9). The network controller or the switches may initiate the policy update (col. 10, lines 57-67), which represents pushing and pulling the data, respectively.

Regarding claim 54, as stated above, Clark discloses that the switches may initiate a policy update, which meets the limitation of a query.

5. Claims 12, 14-19, 28, 29, 32-36 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al. (US 5,970,064) in view of Chen (US 6,563,835) as applied to claims 1-11, 20-27, 37, 38 and 51-54 above, and further in view of Lyon et al. (US 5,892,924).

Regarding claims 12, 28, 29 and 55, the system provided by the teaching of Clark in view of Chen meets all of the limitations except a certificate to specify setup parameters. Lyon discloses a protocol in which a particular flow of packets is associated with a particular ATM label, which represents the certificate of the present invention (col. 8, lines 29-37). The label must include a VPI/VCI available on each switch, which meets the limitation of at least one permitted connection setup parameter (col. 8, line 45-49). When a label decision is made, a message is sent upstream to instruct upstream nodes to send packets belonging to that particular flow via the virtual channel specified by the label (col. 8, lines 49-66). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to assign labels to

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flows in a particular connection. One of ordinary skill in the art would have been motivated to do this in order to provide switching for IP traffic.

Regarding claim 14, Lyon discloses that an available label (VPI/VCI) is selected to label a flow (col. 8, lines 46-49). This VPI/VCI represents the sequence number of the present invention.

Regarding claims 15 and 32, Lyon discloses that each label has a flow identifier containing a set of header fields that characterize the flow (col. 8, lines 52-54). The header fields include a type of service field (see Figure 7A).

Regarding claims 16 and 33, Lyon discloses that a flow with an expired label is transmitted along a default path (col. 8, lines 57-60). Therefore, a switch must perform some test of whether the label is valid, i.e. has not expired, or not in order to make this decision.

Regarding claims 17 and 34, Clark in view of Chen and Lyon fails to expressly disclose preventing the reuse of a certificate. However, it is well known in the art that two different flows cannot be assigned to the same virtual channel. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to prevent reuse of the labels. One of ordinary skill in the art would have been motivated to do this to prevent mixing of different traffic flows on the same virtual channel.

Regarding claim 18 and 35, Lyon discloses a VPI/VCI for each label, as stated above. This VPI/VCI is the identity of the label, thus this would be the identifier used in determining whether a label has been assigned or not in order to prevent reuse.

Regarding claims 19 and 36, Lyon discloses a lifetime for a label after which the flow state expires (col. 8, lines 54-60). At the time the invention was made, it would have been



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obvious to a person of ordinary skill in the art to use this to lifetime in preventing reuse of labels.

One of ordinary skill in the art would have been motivated to do this because the lifetime provides the information as to whether a particular label is still being used.

6. Claims 13, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al. (US 5,970,064) in view of Chen (US 6,563,835) and Lyon et al. (US 5,892,924) as applied to claims 12, 14-19, 28, 29, 32-36 and 55 above, and further in view of Hughes et al. (US 5,842,040).

Regarding claims 13 and 30, the system provided by Clark in view of Chen and Lyon fails to expressly disclose encrypting a certificate. Hughes discloses encryption as a possible ATM network policy (col. 5, lines 29-32). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use encryption for sending labeled flows through the network provided by Clark in view of Chen and Lyon. One of ordinary skill in the art would have been motivated to do this to protect sensitive data from security threats.

Regarding claim 31, Lyon discloses that an available label (VPI/VCI) is selected to label a flow (col. 8, lines 46-49). This VPI/VCI represents the sequence number of the present invention.

7. Claims 39-41 and 43-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 5,953,338) in view of Lyon et al. (5,892,924).

Regarding claims 39-41, 44 and 46-50, Ma discloses receiving a request for a network service and basing authorization of the request on a number of factors (col. 7, lines 8-38). Ma

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discloses a centralized call admission controller (CAC) (145) for authorizing the request, which meets the limitation of a service controller, and a bandwidth manager module (150) for creating an authorized connection, which meets the limitation of a network connection capability (see Figure 1A). Ma fails to expressly disclose providing a certificate that specifies at least one permitted connection setup. Lyon discloses a protocol in which a particular flow of packets is associated with a particular ATM label, which represents the certificate of the present invention (col. 8, lines 29-37). The label must include a VPI/VCI available on each switch, which meets the limitation of at least one permitted connection setup parameter (col. 8, line 45-49). When a label decision is made, a message is sent upstream to instruct upstream nodes to send packets belonging to that particular flow via the virtual channel specified by the label (col. 8, lines 49-66). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the label to set up connection requests in the system provided by Ma. It also would have been obvious to receive a label at the bandwidth manager module from the CAC of Ma. One of ordinary skill in the art would have been motivated to use the label in order to switch IP traffic through the network of Ma. One of ordinary skill in the art would have been motivated to provide the bandwidth manager module with the label because the bandwidth manager module is responsible for monitoring and updating all of the assigned virtual connections in the network.

Regarding claim 43, Ma in view of Lyon as described above fails to expressly disclose preventing a repeat use of the label. However, it is well known in the art that two different flows cannot be assigned to the same virtual channel. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to prevent reuse of the labels. One of

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ordinary skill in the art would have been motivated to do this to prevent mixing of different traffic flows on the same virtual channel.

Regarding claim 45, Lyon discloses that each label has a flow identifier containing a set of header fields that characterize the flow (col. 8, lines 52-54). This meets the limitation of at least one of policy and logic.

8. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 5,953,338) in view of Lyon et al. (US 5,892,924) as applied to claims 39-41 and 43-50 above, and further in view of Hughes et al. (US 5,842,040).

Regarding claim 42, the system provided by Ma in view of Lyon fails to expressly disclose encrypting a certificate. Hughes discloses encryption as a possible ATM network policy (col. 5, lines 29-32). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use encryption for sending labeled flows through the network provided by Ma in view of Lyon. One of ordinary skill in the art would have been motivated to do this to protect sensitive data from security threats.

9. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 5,953,338 in view of Chen (US 6,563,835).

Regarding claim 56, Ma discloses receiving a request for a network service and basing authorization of the request on a number of factors (col. 7, lines 8-38). Ma discloses a centralized call admission controller (CAC) (145) for authorizing the request, which meets the limitation of a service controller. Ma also discloses a bandwidth manager module (150) for

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creating an authorized connection (see Figure 1A). The bandwidth manager module instructs the CAC at specific ATM switches to actually alter, create, destroy, etc. virtual paths (col. 7, lines 26-36). Thus, the network connection capability of Ma encompasses the bandwidth manager module and the CAC in the switches. Ma also discloses that the bandwidth manager module creates virtual paths and channels in accordance with customer contract values for a time of day (col. 13, lines 18-58), which meets the limitation of establishing or rejecting a network connection based on at least one of policy and logic. Ma fails to expressly disclose the step of instructing the customer to perform a connection setup request. Chen discloses a procedure for setting up a network connection that includes the step of a customer performing a connection setup request (see Figure 7). Although Chen does not expressly disclose a unique identifier in the setup message, it is well known in the art that such a message must include such a unique identifier. Otherwise, there would be no way to know for which device the connection was being setup. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to instruct the customer to perform the procedure of Chen after receiving a request from a customer in the network of Clark. One of ordinary skill in the art would have been motivated to use this procedure to be sure the connection could actually be established in the switches before attempting to make a call.

10. Claims 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 5,953,338) in view of Chen (US 6,563,835) as applied to claim 56 above, and further in view of Clark et al. (US 5,970,064).

Regarding claims 57 and 58, Ma in view of Chen fails to expressly disclose pushing at least one of policy and logic onto the network connection capability or pulling at least one of policy and logic from the service controller. Clark discloses a network controller that periodically replenishes the policy data at each switch (col. 10, lines 45-47). The network controller generates new policy data based on data received from the switches (col. 11, lines 5-9). The network controller or the switches may initiate the policy update (col. 10, lines 57-67), which represents pushing and pulling the data, respectively. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to either push policy data onto the network connection capability of Ma in view of Chen, or pull policy data from the centralized call admission controller of Ma in view of Chen. One of ordinary skill in the art would have been motivated to do this in order to maintain updated policy information for setting up connections across all of the switches in the network.

Regarding claim 59, as stated above, Clark discloses that the switches may initiate a policy update, which meets the limitation of querying a service control module.

11. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 5,953,338) in view of Chen (US 6,563,835) as applied to claim 55 above, and further in view of Lyon et al. (US 5,892,924).

Regarding claim 60, Ma in view of Chen fails to expressly disclose including a certificate in a connection setup request and establishing and rejecting the connection based on the certificate. Lyon discloses a protocol in which a particular flow of packets is associated with a particular ATM label, which represents the certificate of the present invention (col. 8, lines 29-

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37). The label must include a VPI/VCI available on each switch, which meets the limitation of at least one permitted connection setup parameter (col. 8, line 45-49). When a label decision is made, a message is sent upstream to instruct upstream nodes to send packets belonging to that particular flow via the virtual channel specified by the label (col. 8, lines 49-66). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to assign labels to flows for particular connections. It also would have been obvious to use the label in establishing or rejecting the request in the system provided by Ma in view of Chen. One of ordinary skill in the art would have been motivated to do this in order to provide switching for IP traffic. One of ordinary skill in the art would have been motivated to use the label in deciding whether to establish or reject a request to be sure that a label was not being reused, or that an expired label was not being used.

### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Graham et al. (WO 98/26627) Enhanced Services for ATM Switching Using External Control

- Cardy et al. (US 6,041,109) Telecommunications System having Separate Switch Intelligence and Switch Fabric

13. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and

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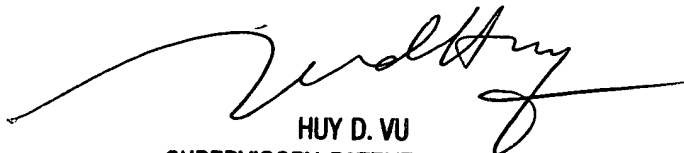
fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper

*TEV*

May 14, 2004

  
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SUPERVISORY PATENT EXAMINER  
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